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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/804,407	03/19/2004	Shinsuke Ikishima	UNIU79.021AUS	7353

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KNOBBE MARTENS OLSON & BEAR LLP
2040 MAIN STREET
FOURTEENTH FLOOR
IRVINE, CA 92614

EXAMINER

DESAI, ANISH P

ART UNIT	PAPER NUMBER
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1794

NOTIFICATION DATE	DELIVERY MODE
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ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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jcartee@kmob.com
eOAPilot@kmob.com

Office Action Summary	Application No. 10/804,407	Applicant(s) IKISHIMA ET AL.	
	Examiner ANISH DESAI	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 July 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 17, 18, 21-23, 26, 29 and 30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 17, 18, 21-23, 26, 29 and 30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>7/24/08</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Applicant's arguments in response to the Office action dated 03/25/18 have been fully considered.
2. Support for the amended claims is found in the specification as originally filled.
3. The 35 USC Section 102(b)/103(a) rejections based on Tomoko et al. (JP 2001-232730) are withdrawn because Tomoko does not teach or suggest "wherein said HALS-hybrid methacrylic or acrylic polymer comprises cyclohexyl methacrylate or cyclohexyl acrylate as monomer component." as presently claimed.
4. A new 35 USC Section 103(a) rejection based on Tomoko et al. (JP2001-232730, English translation provided by the Examiner) in view of Hiromasa Nomura et al. (article titled "High Durability Clear Painted Stainless Steel Sheets") is made.

Information Disclosure Statement

5. The information disclosure statement filed 07/24/08 fails to comply with 37 CFR 1.98(a)(3)(i) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each document listed that is not in the English language (see also MPEP 609.04(a) III). It has been placed in the application file, but the information referred to therein has not been considered.
6. It is noted that Applicant has cited Japanese Office Action on the aforementioned IDS but not provided a concise explanation of relevance.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 17, 18, 22, 29, and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tomoko et al. (JP2001-232730, English translation provided by the Examiner) in view of Hiromasa Nomura et al. (article titled "High Durability Clear Painted Stainless Steel Sheets").
8. Tomoko discloses a hard coat films having a resin layer with excellent weatherability, transparency, solvent resistance, scratch resistance, and adhesion (see page 3, 0001). The hard coat film of Tomoko is coated on a polymeric substrate such as polypropylene films (page 14, 0034). Further, the thickness of the substrate of Tomoko is from 10-500 micrometers, preferably 20-300 micrometers and the thickness of the hard coat is from 0.5-15 micrometers (see page 17, 0041-0042).

Art Unit: 1794

9. Further at page 4 0004, page 6 0009, and pages 8-9 0016, Tomoko discloses following:

10. at page 4, 0004

To solve such problems, this invention adopts the following means. Namely, the hard coat film of this invention is characterized by having a resin layer on at least one side of a polymer film substrate; the resin layer is obtained by copolymerization of three monomers composed of a (meth)acrylic monomer to which at least a UV-absorbing compound was added, a (meth)acrylic monomer to which at least a light-resistant compound was added, and a polymerizable unsaturated compound containing a functional group. The resin layer is crosslinked by a crosslinking compound that reacts with the functional group and there is a hard coat resin film on the resin layer.

11. at page 6, 0009

For the (meth)acrylates to which light-resistant compounds were added which are used in this invention, (meth)acrylates to which reactive light-resistant hindered amines containing sterically hindered piperidine ring was added can be used. For example 1,2,2,6,6-pentamethyl-4-piperidyl methacrylate, 2,2,6,6-tetramethyl-4-piperidyl methacrylate, etc., may be used.

12. at pages 8-9, 0016

The (meth)acrylic copolymers in this invention are characterized in that they are hybrid acrylic polymers with the above-mentioned acrylic monomers as the main skeleton obtained by copolymerization of a (meth)acrylic monomer to which a UV absorber was added to a (meth)acrylic

Art Unit: 1794

monomer to which a light-resistant compound was added, namely a UV absorber and light-stabilizer were introduced into acrylic monomers. The copolymerization ratio of (meth)acrylic monomer to which the UV-absorbing compound was added based on the (meth)acrylic copolymer is preferably 10-70 wt%, more preferably 20-40 wt%. The copolymerization ratio of (meth)acrylic monomer to which a light-resistant compound was added based on the (meth)acrylic copolymer is preferably 1-30 wt%, more preferably 5-20 wt% from the viewpoint of balance of weather resistance, adhesion property, durability, and coatability.

13. The aforementioned disclosure of addition of hindered-amine light-stabilizers (HALS) to acrylic polymer and crosslinking of the hard coating as taught by Tomoko reads on Applicant's claimed requirement of "a three-dimensional structure comprising...crosslinked with each other" and "wherein the methacrylic/or acrylic polymers comprise a HALS-hybrid methacrylic or acrylic polymers". As to the claim requirement of acrylic or methacrylic polymer having a hydroxyl value of 20 to 80 KOH mg/g, at page 9 0019 Tomoko discloses following:

As to the reactive group of the (meth)acrylic copolymer in this invention, hydroxyl group is preferable and its hydroxyl value based on the varnish is preferably 10-70, more preferably 20-50 is good for solvent resistance, adhesion, workability, etc.

14. As to the claim 22 requirement of a method of manufacturing a plastic film, it is noted that the disclosure of Tomoko at page 14 0033-0034, page 17 0041-0042, page 18 0046, page 10 0021-0023 read on Applicant's method steps of "providing a substrate having a thickness of...200 μm ", "providing a polymer solution comprising...a solvent", "applying the polymer...curing the polymer solution...crosslinked structure...wherein the

Art Unit: 1794

methacrylic and/or acrylic polymers comprise a HALS-hybrid methacrylic or acrylic polymer".

15. The difference between the claimed invention and the prior art of Tomoko is that Tomoko is silent with respect to teaching the newly added limitation of "wherein said HALS-hybrid methacrylic or acrylic polymer comprise cyclohexyl methacrylate or cyclohexyl acrylate as monomer component".

16. However, abstract of Hiromasa discloses following:

Highly durable, clear-painted stainless steel sheets Hals-hybrid clear painted stainless steel sheets for buildings have been developed. The deterioration mechanism of polymer outdoors is known as an auto oxidation which is caused by radical chain reaction. Hindered amine light stabilizers (hereafter HALS) have been introduced to capture the radical, and cyclohexyl metacrylate (hereafter CHMA) has been introduced to improve the light stability and hydrophobicity. Hals-hybrid resin is an acrylic polyol resin composed of HALS copolymerized CHMA. The newly developed Hals-hybrid clear painted stainless steel sheet showed good weatherability in outdoor exposure tests.

17. Further at page 44, Hiromasa discloses following:

(3) The flow of HALS out of the painted film is considered responsible for a decrease in durability. HALS-hybrid resins therefore applied, in which HALS is copolymerized with CHMA, so that a long-term durability can be retained by preventing the outflow of HALS.

18. It is noted that the primary reference of Tomoko generally discloses use of hard coating films comprising HALS-hybrid acrylic polymers (pages 8-9, 0016). Further, the primary reference of Tomoko desires hard coating films with excellent weatherability,

Art Unit: 1794

transparency, solvent resistance, scratch resistance, and adhesion (see page 3, 0001).

The secondary reference of Hiromasa discloses coating composition comprising HALS-hybrid resin system wherein HALS has been introduced to cyclohexyl methacrylate to improve light stability, hydrophobicity and weatherability.

19. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the HALS hybrid methacrylic or acrylic polymer comprising cyclohexyl methacrylate or cyclohexyl acrylate in the invention of Tomoko, motivated by the desire to form hard coating that has excellent light stability, hydrophobicity and weatherability.

20. With respect to the claimed requirements of the hydroxyl value and substrate having a swelling rate as claimed, it is reasonable to presume that the invention of Tomoko as modified by Hiromasa necessarily has the aforementioned properties.

21. The support for said presumption is based on the fact that the plastic films of Applicant and Tomoko as modified by Hiromasa include a substrate and a hard coating layer having three dimensional structure comprising methacrylic and/or acrylic polymer crosslinked with each other, wherein the methacrylic and/or acrylic polymer comprise a HALS-hybrid methacrylic or acrylic polymer and the HALS-hybrid methacrylic or acrylic polymer comprise cyclohexyl methacrylate. The plastic films of Applicant and that of Hiromasa as modified by Tomoko are similar in structure and composition. Thus, the aforementioned features would be present in the invention of Tomoko as modified by Hiromasa. The burden is respectfully shifted to Applicant to prove it otherwise (see *In re Fitzgerald*, 205 USPQ 594).

Art Unit: 1794

22. As to newly added claims 29 and 30, it is noted that Tomoko discloses following at page 13 0030:

One and in some cases at least two of these crosslinking compounds may be used together. The quantity of crosslinking compounds to be added depends on the type of the crosslinking compound; however, 0.01-50 parts by weight, more preferably 0.2-30 parts by weight crosslinking compound is used based on 100 parts by weight solid matter of the resin.

23. Thus, based on the aforementioned disclosure it is reasonable to expect that the solvent resistance of the plastic film of Tomoko is improved over the solvent resistance of the plastic film with hard coating layer having crosslinking agent less than said range.

24. Claims 21 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tomoko et al. (JP2001-232730, English translation provided by the Examiner) in view of Hiromasa Nomura et al. (article titled "High Durability Clear Painted Stainless Steel Sheets") as applied to claims 17 and 22 above, and further in view of Shibata et al. (US 2001/0020515A1).

25. The invention of Tomoko is previously disclosed.

26. Tomoko is silent as to teaching a layer of PSA having a thickness of about 1 micrometer to about 300 micrometers.

27. However, Shibata discloses a sheet for protecting paint film comprising a substrate and formed on one side thereof a rubber based PSA layer (abstract), wherein the thickness of the PSA is from 3 to 100 micrometers (0046).

Art Unit: 1794

28. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the PSA layer with the thickness as taught by Shibata in the invention of Tomoko, motivated by the desire to easily stick the plastic film onto a substrate that needs to be protected.

Response to Arguments

29. Applicant's arguments filed 07/24/08 have been fully considered but they are not persuasive.

30. With respect to the reference of Tomoko (JP 2001-232730) (Applicant refers it as "Toida"), Applicant argues that although Toida discloses a range of crosslinking agent, Applicant's specification demonstrates that a subset of Toida's range possesses properties unexpectedly superior over other quantities within Toida's range. As such, this subset characterized by Applicant is non-obvious over Toida's teaching.

31. The Examiner respectfully disagrees for the following reasons:

32. Applicant's claim requires the amount of crosslinking agent to be in the range of from 10 to 30 parts by weight based on 100 parts by weight of the (meth)acrylic polymer. As stated previously, it is noted that Toida discloses following at page 13 0030:

One and in some cases at least two of these crosslinking compounds may be used together. The quantity of crosslinking compounds to be added depends on the type of the crosslinking compound; however, 0.01-50 parts by weight, more preferably 0.2-30 parts by weight crosslinking compound is used based on 100 parts by weight solid matter of the resin.

Art Unit: 1794

33. Thus Toida's crosslinking amount of 0.01 to 50 parts by weight overlaps with Applicant's 10-30 parts by weight of crosslinking agent. Thus, Applicant's arguments are not found persuasive because Toida's crosslinking agent amount actually overlaps the claimed range.

Conclusion

34. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Brochure titled "HALSHYBRID UV-G Series" by Nippon Shokubai.

35. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

36. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Art Unit: 1794

37. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANISH DESAI whose telephone number is (571)272-6467. The examiner can normally be reached on Monday-Friday, 8:00AM-4:30PM.

38. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Larry Tarazano can be reached on 571-272-1515. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

39. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/A. D./
Examiner, Art Unit 1794

/Hai Vo/
Primary Examiner, Art Unit 1794